KODAK 8000C Digital Panoramic and Cephalometric Extraoral Imaging System

Installation Guide

Notice

Congratulations on your purchase of the KODAK 8000C Digital Panoramic and Cephalometric Extraoral Imaging System. Thank you for your confidence in our products and we will do all in our power to ensure your complete satisfaction.

The Installation Guide for the KODAK 8000C Digital Panoramic and Cephalometric Extraoral Imaging System includes information on the cephalometric features. For the panoramic features, see the KODAK 8000 Extraoral Imaging System (SM721) Installation Guide. We recommend that you thoroughly familiarize yourself with this Guide in order to make the most effective use of your system.

WARNING: We recommend that you consult the “Safety, Regulatory and the Technical Specification User Guide” before using the KODAK 8000C Extraoral Imaging Systems.

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This document is originally written in English.

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KODAK 8000C Digital Panoramic and Cephalometric Extraoral Imaging System, complies with Directive 93/42/CEE relating to medical equipment.
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Chapter 1
About This Guide

Conventions in this Guide

The following special messages emphasize information or indicate potential risk to personnel or equipment:

WARNING
Warns you to avoid injury to yourself or others by following the safety instructions precisely.

CAUTION
Alerts you to a condition that might cause serious damage.

IMPORTANT
Alerts you to a condition that might cause problems.

NOTE
Emphasizes important information.

TIP
Provides extra information and hints.

Chapter 2
KODAK 8000C UNIT OVERVIEW

The KODAK 8000C digital panoramic and cephalometric unit is designed to carry out the following radiological examinations:

- Panoramic
- Maxillary Sinus
- Temporomandibular Joints (TMJ)
- Lateral cephalometric
- Frontal (PA or AP) cephalometric
- Oblique cephalometric
- Submento-vertex cephalometric
- Carpus cephalometric

General Overview

The KODAK 8000C digital panoramic and cephalometric unit is composed of the following functional components:

- The unit head that contains all the electronic control
- The rotative arm
- The fixed arm with a control panel
- The panoramic digital sensor
- The x-ray source assembly
- The x-ray remote control
- The chin rest and bite block
- The chin rest base
- The panoramic chin rest and bite block
- The temple supports
- The hand grips
- The cephalostat arm
- The cephalostat head
- The head clamps and ear cones
- The nasion support
- The acquisition software (see "**Imaging Software Overview**")

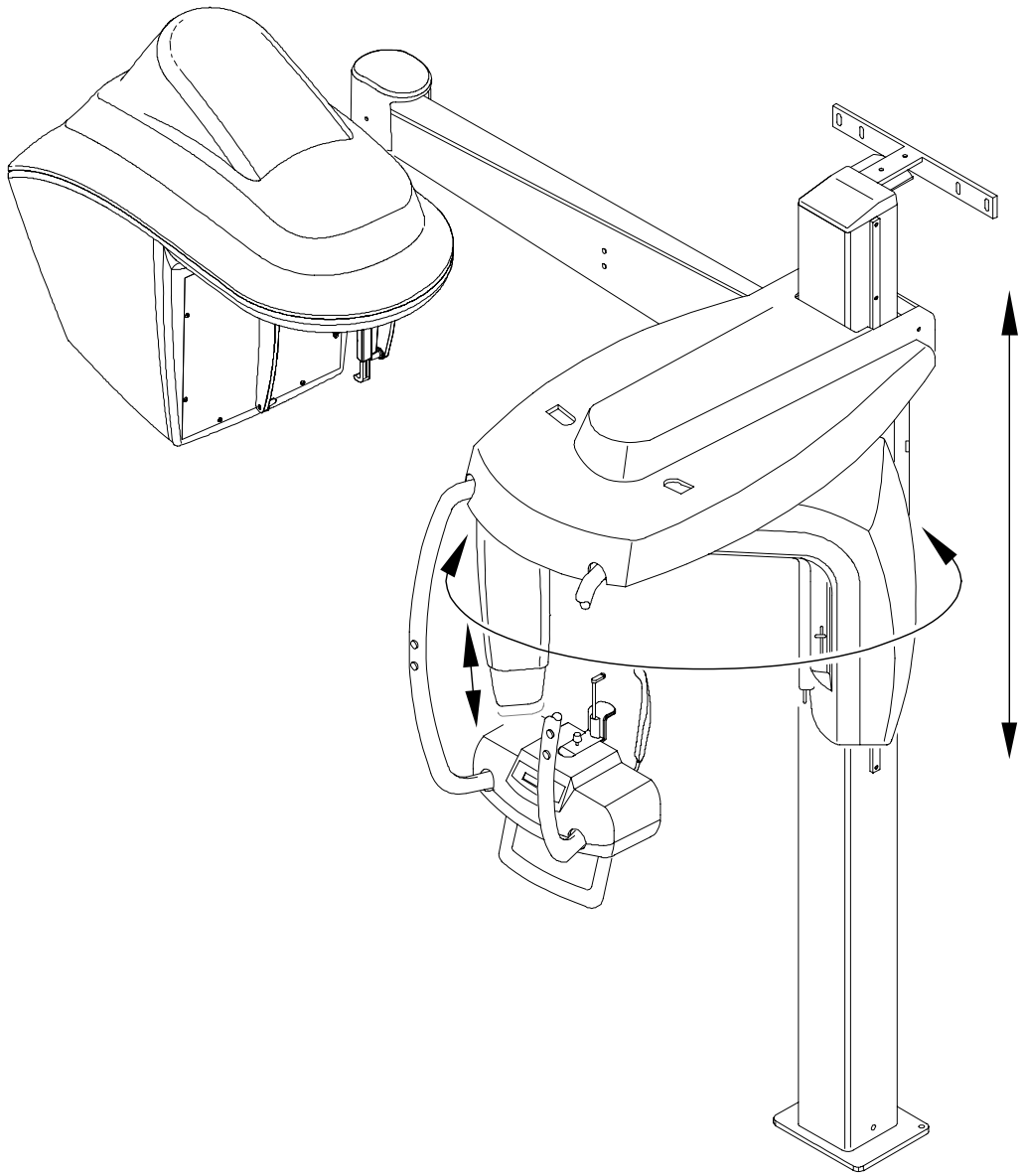
The following figures illustrate the general overview of the KODAK 8000C digital panoramic and cephalometric units.

IMPORTANT
The Cephalostat can be positioned either on the right or the left side of the KODAK 8000 unit.

Mobile Components

Figure 2-1 illustrates the up and down movement of the KODAK 8000C digital panoramic and cephalometric units mobile component and the rotation of the rotative arm.

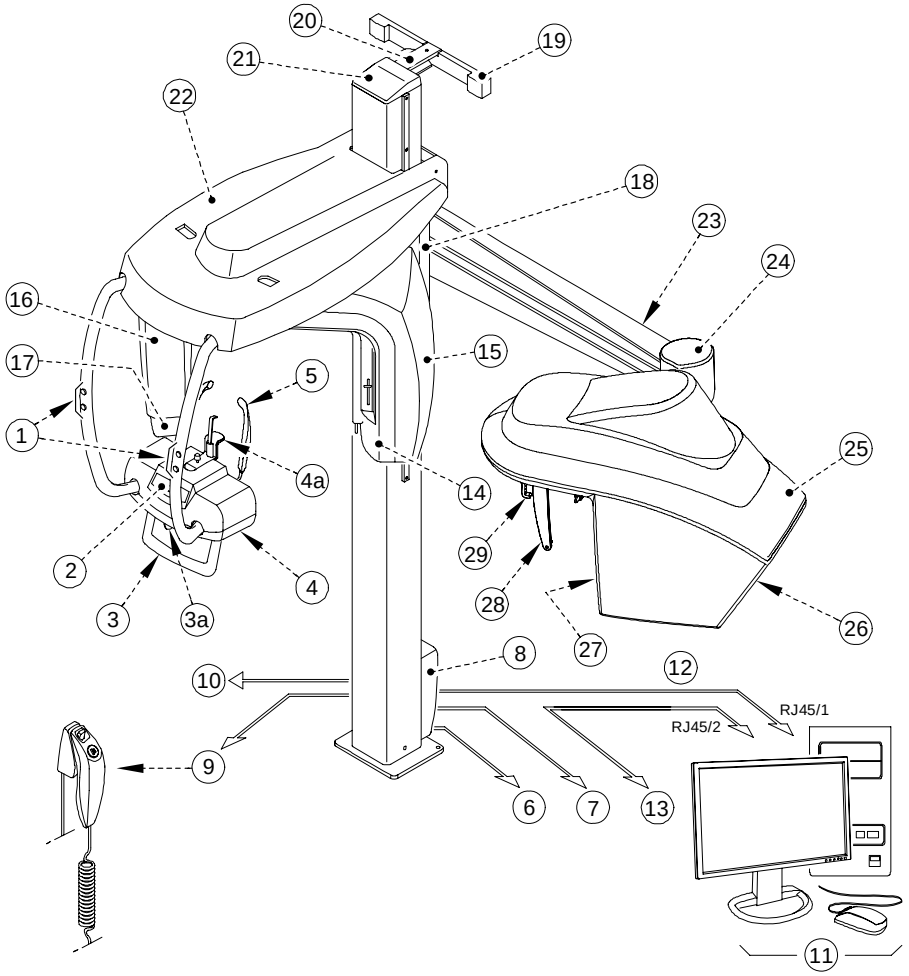
Figure 2–1 KODAK 8000 and KODAK 8000C Units Mobile Components



General Functional Components

Figure 2-2 illustrates the general functional components of the KODAK 8000C digital panoramic and cephalometric units.

Figure 2–2 KODAK 8000 and KODAK 8000C Units Functional Components



1	Height adjustment buttons	**14**	X-Ray source assembly
2	Control panel	**15**	Unit rotative arm
3	Hand Grip	**16**	Panoramic sensor
3a	Temple supports control knob	**17**	Component to raise for Cephalometric mode
4	Chin rest base	**18**	ON/OFF button
4a	Chin rest and bite block	**19**	Wall mounting brackets cover
5	Temple supports	**20**	Wall mounting brackets
6	Unit mains connecting terminal	**21**	Column upper cover
7	Green warning lamp (ready state indicator)	**22**	Panoramic head cover
8	Column connecting terminal	**23**	Cephalostat arm

9 X-Ray remote control

10 Door safety switch

11 PC hosting the imaging and the acquisition software

12 Ethernet outlet RJ45/1

13 LAN RJ45/2

24 Cephalometric end of the arm cover

25 Cephalostat head and head top cover

26 Cephalostat head side cover

27 Carbon fiber screen

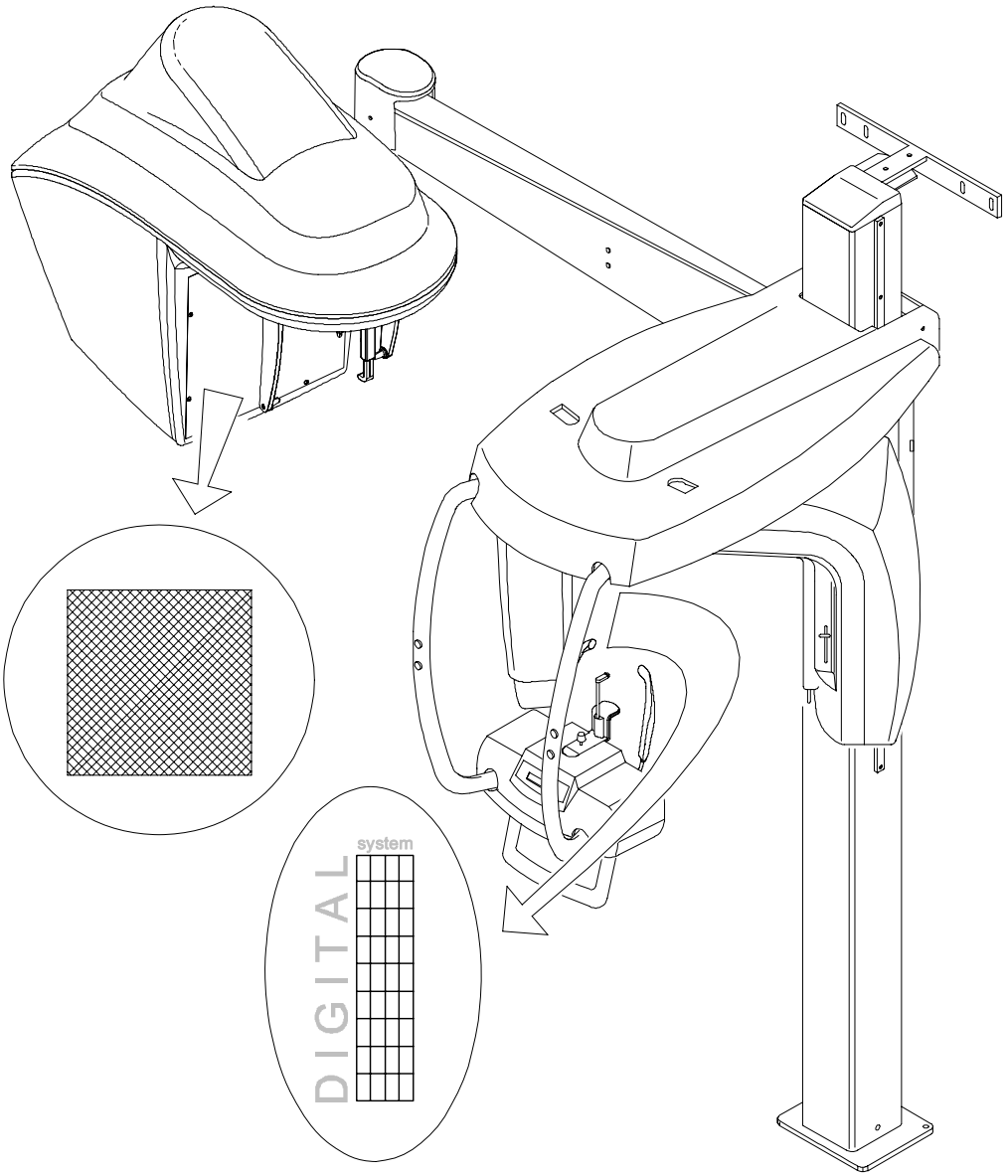
28 Head clamps and ear cones

29 Nasion support

Digital Sensor Locations

Figure 2-3 illustrates the locations of the digital panoramic and digital cephalometric sensors of the KODAK 8000C digital panoramic and cephalometric units.

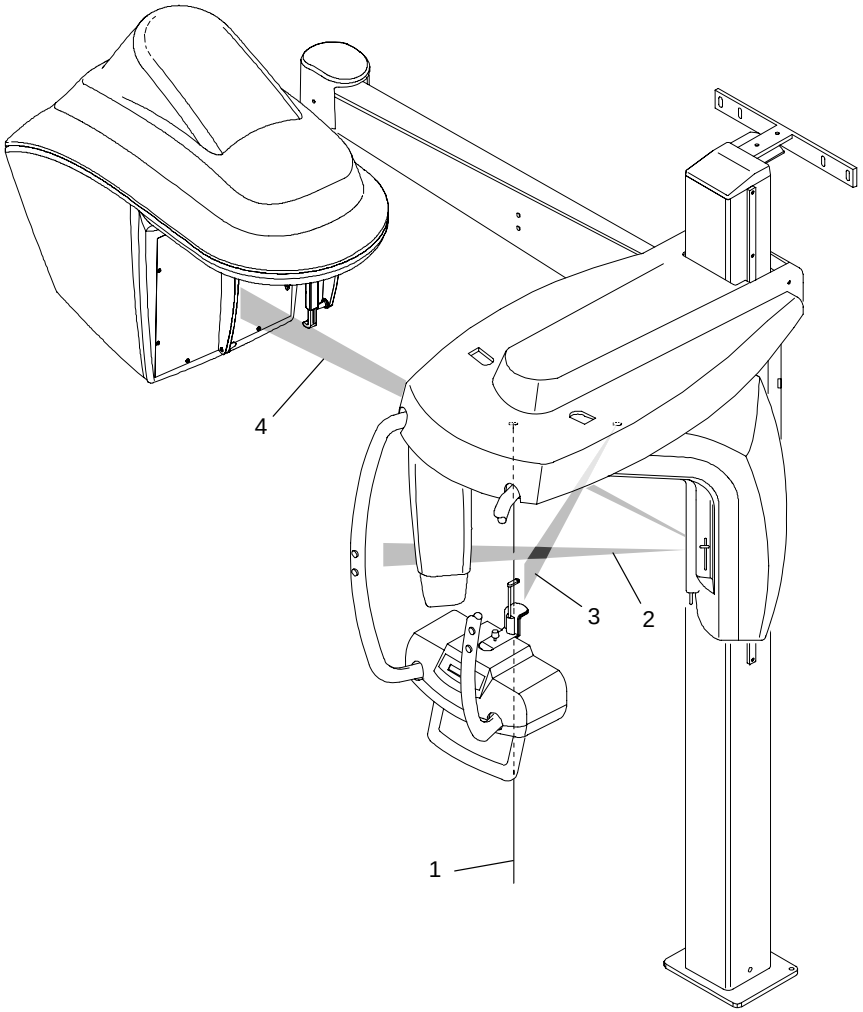
Figure 2–3 KODAK 8000 and KODAK 8000C Units Digital Sensor Locations



Laser Locations

Figure 2-4 illustrates the location of the lasers of the KODAK 8000C digital panoramic and cephalometric units.

Figure 2–4 KODAK 8000 and KODAK 8000C Units Laser Beam Locations



1 Mid-sagittal plane positioning laser beam

2 Frankfort plane positioning laser beam

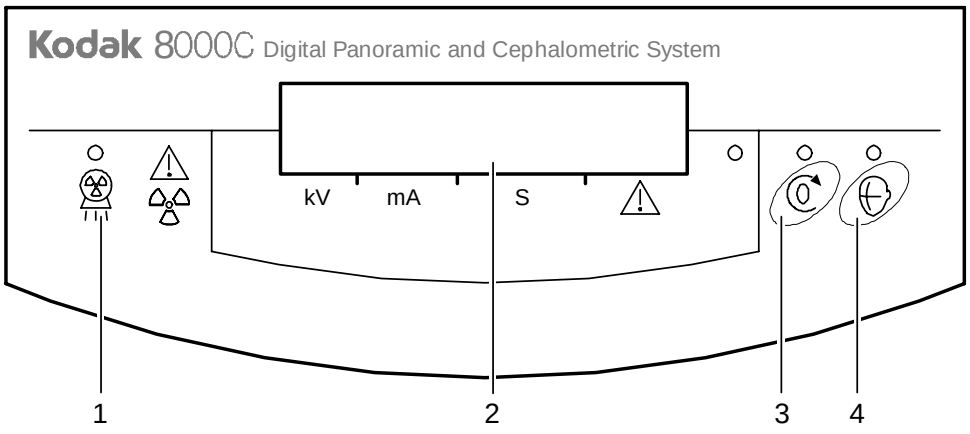
3 Canine plane positioning laser beam

4 Cephalometric Frankfort plane positioning laser beam

Control Panel

The control panel is an alphanumeric, digital soft touch console. It allows the operator to control certain unit functions. It also displays the operating parameters and error messages.

Figure 2–5 Unit Control Panel



1 **X-Ray emission LED:** Yellow, indicates the x-rays are being emitted.

2 **Display Screen:** Displays the current acquisition parameters and the error messages.

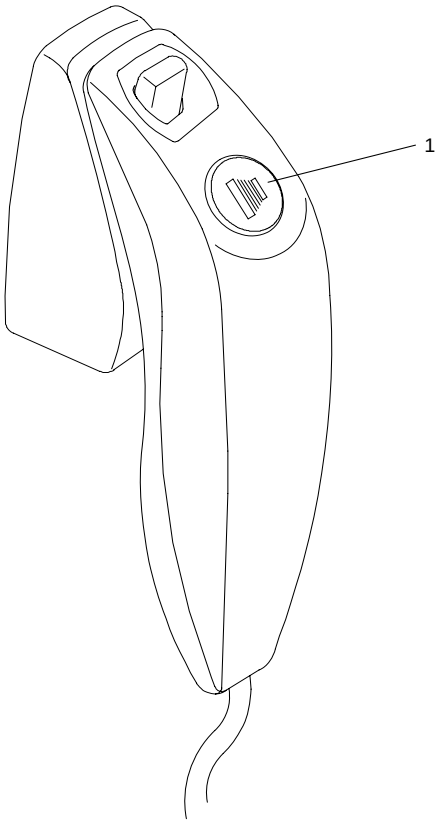
3 **Reset button:** Resets the unit arm to the initial position to enable the patient to enter and exit the unit.

4 **Laser beam button:** Activates the laser positioning beams to correctly position the patient.

X-Ray Remote Control Overview

The x- ray remote control enables you to launch a radiological image acquisition via the exposure button from outside the x-ray room. You must press and hold the exposure button until the end of acquisition. Premature release of the exposure button interrupts the acquisition.

Figure 2–6 X-Ray Remote Control



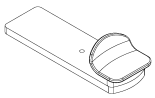
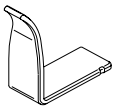
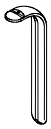
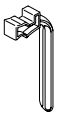
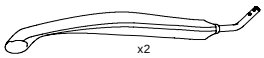
1 **Exposure button:** launches image acquisition.

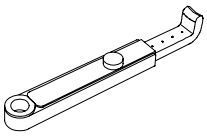
Positioning Accessories and Replacement Parts

The following accessories are used when positioning a patient. They are delivered with the KODAK 8000 digital panoramic and KODAK 8000C digital panoramic and cephalometric unit.

Table 2-1 and Table 2-2 list the panoramic and cephalometric positioning accessories.

Table 2–1 Panoramic Positioning Accessories and Replacement Parts

Accessory	Description
	Panoramic chin rest and TMJ x2
	Maxillary sinus chin rest
	TMJ x2 and TMJ x4 nose rest
	Standard bite block
	Bite block for edentulous patients
	A set of right and left temple supports
	Single use sheaths for bite blocks (500 pcs box)

Accessory	Description
x2	Head clamps with ear cones
	Nasion support

Chapter 3
KODAK 8000C PACKAGING

Standard Packaging

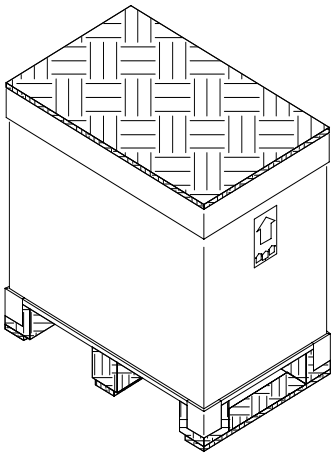


Table 3–1 Cephalometric Assembly Components

Box	Components	Dimension (mm)	Weight
	• Cephalostat head • Cephalostat arm • Cephalostat covers • Documentation (User Guide and Installation Guide)	1200mm (L) x 800mm (D) x 1180mm (H)	80 kg

Table 3–2 Components

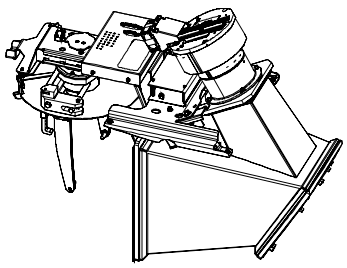
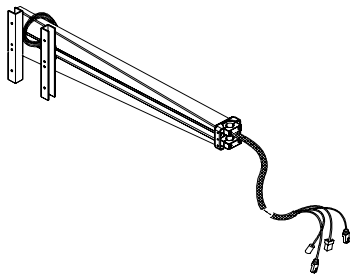
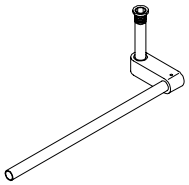
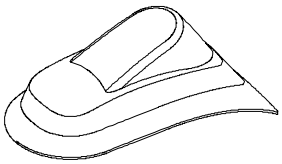
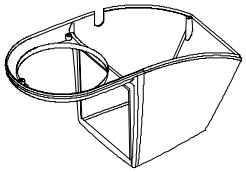
Product	Description	Quantity
	Cephalostat head	1

Table 3–2 Components (Continued)

Product	Description	Quantity
	Cephalostat arm	1
	Arm elbow tube	1
	End of the arm cover	1
	Head top cover	1
	Head side cover	1

Chapter 4
SITE PREPARATION BEFORE INSTALLATION

IMPORTANT

Prior to placing the order and before installation, carefully check the following requirements for the x-ray room.

Standard Compliance

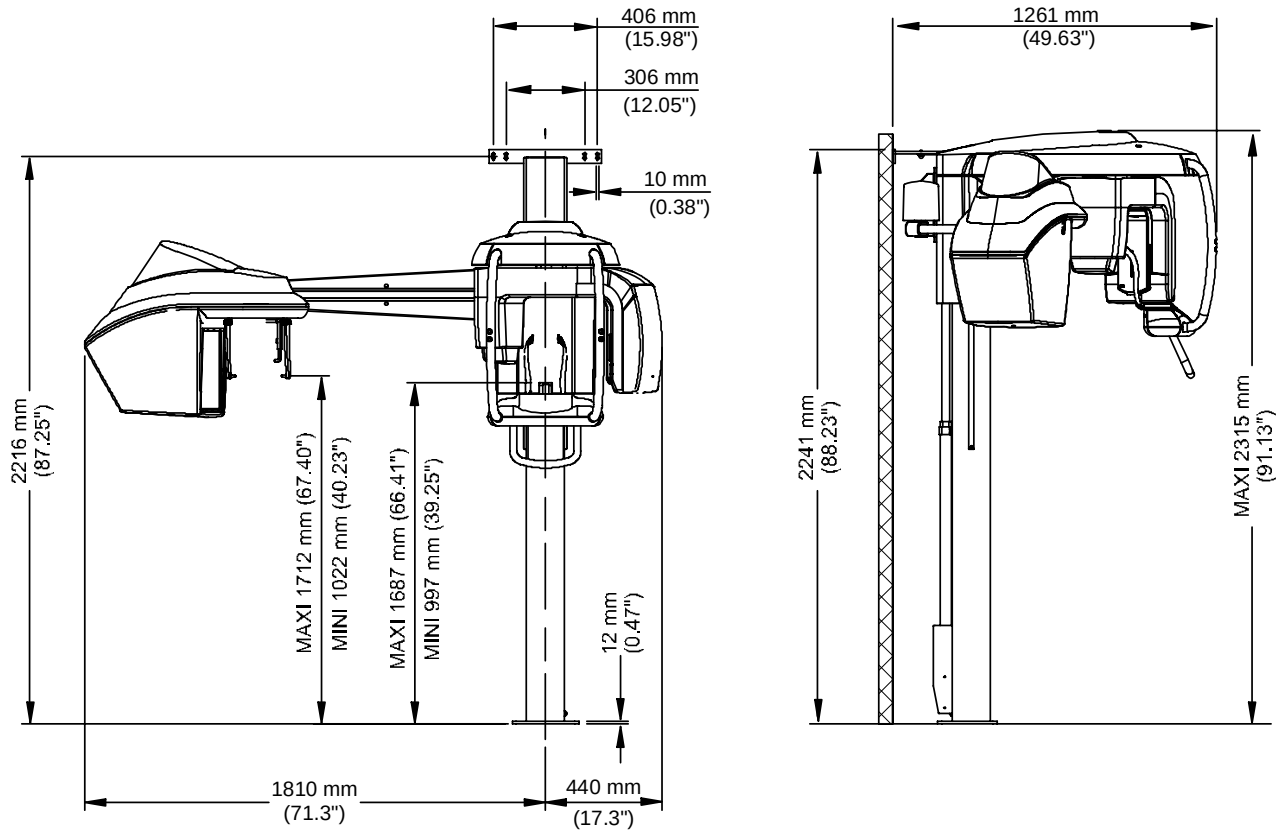
Install the unit in an x-ray room compliant with all official regulations applicable to protection against radiation. This room must reduce the frequency interferences of the 30MHz to 1GHz band to at least 12db.

Environmental Requirements

Check the following ambient operating condition requirements of the x-ray room before installing the unit:

- **Temperatures:** 5 ~35 °C
- **Relative humidity:** 30 ~ 85%
- **Atmospheric pressure:** 700 ~ 1060 hpa

Unit Dimensions

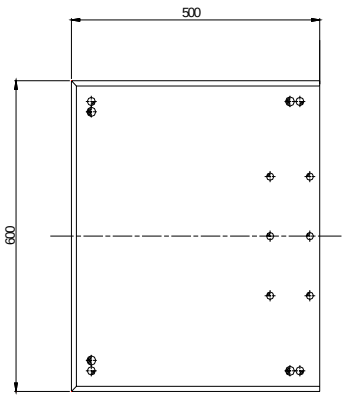


The unit dimensions illustrated in the above figure are as follows:

- Maximum height of the unit (2315mm)
- Minimum (1687mm) and maximum (997mm) height of the chin rest
- Minimum (1022mm) and maximum (1712mm) height of the ear cones
- Width (2250mm) and depth (1261mm) of the unit

WARNING

If you need to add a base plate you must add 15mm to the height of the unit.



Electrical Requirements

WARNING*

You MUST select the operating voltage when placing an order. The operating voltage CANNOT be modified on site.

The unit can operate at:

- 100/110/130 V 50/60 Hz
- 230/240 V 50/60 Hz

Table 4–1 Optional Operating Voltages of the Unit

Nominal voltage * (no load)	Minimum	Maximum	Maximum line current
100 V - 130 V	90 V	143 V	20 A
230 V - 240 V	207 V	264 V	10 A

CAUTION

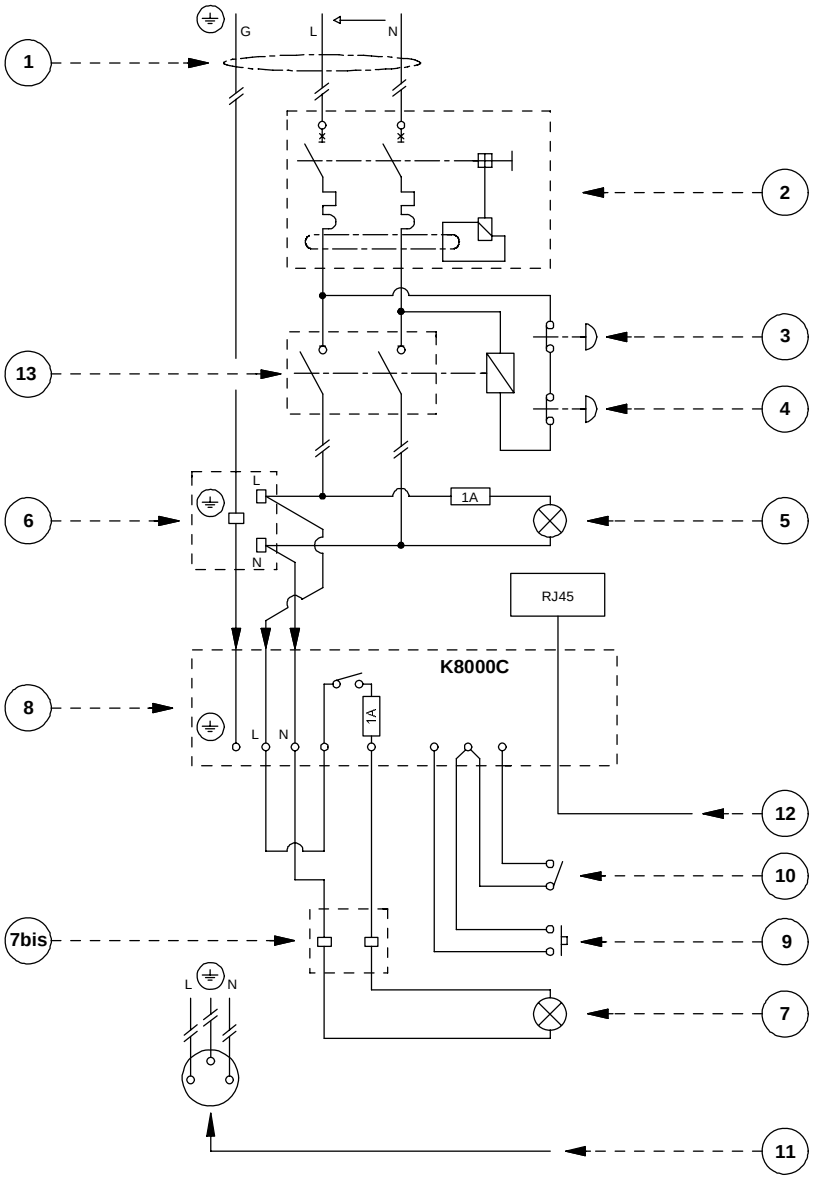
The power supply line must be equipped with a connection box that ensures a constant connection. It must not be possible to connect the unit to the power supply without using a tool. The unit must be protected against any accidental disconnection.

If other units are installed on the same line, interference and voltage fluctuations can cause the radiological unit to operate abnormally. We strongly recommend that a separate electrical line be dedicated to supply power to the KODAK 8000C unit.

This line should be protected by a circuit breaker with a maximum current of:

- 16 A at 230/240 V
- 20 A at 110/130 V
- A differential circuit breaker of 30 mA

Figure 4–1 Electrical Diagram of the X-ray Room and Connections



1	General mains	**7bis**	X-ray warning lamp connecting terminal
2	Differential circuit breaker	**8**	Column connecting terminals
3	Red color actuator emergency stop push-button	**9**	X-ray remote control
4	Red color actuator emergency stop push-button	**10**	Door safety switch
5	Red warning lamp, power ON indicator	**11**	Mains outlet (for electric tools)
6	Unit mains connecting terminal	**12**	Ethernet outlet (RJ45/1)
7	Green warning lamp, ready state indicator	**13**	Contactor

A single-phase alternating current power supply is required.

The electrical installation specifications should be as follows:

Table 4–2 Electrical Installation Specifications

Supply Voltage	230V/240V	100V/110V / 130V	
Frequency	50/60 Hz	50/60 Hz	
Electrical supply	6 kW	6 kW	
Line current required	16A	20A	
Cable cross-section according to length	For 30 m: 2.5 mm2	For 10 m: 2.5 mm2	
Max. line impedance	0.5	0.12	
Differential circuit breaker (2)	30 mA	30 mA	
Maximum current to trip circuit breaker	16A	20A	Protect the power supply line with a differential circuit breaker that trips at maximum current.
Specifications of 2 red color actuator emergency stop push-button (3) and (4)	250V 6A UL listed	250V 6A UL listed	• Install these stop push-buttons to simultaneously, switch off the current to the active conductors of the radiological installation and exclude any other electric equipment. • Locate (3) inside the x-ray room, near the unit, for the operator to quickly cut the power supply if necessary. • Locate (4) outside the x-ray room, near the x-ray remote control for the operator to quickly cut the power supply if necessary. • Maintain them in OFF (open) position until a deliberate action is performed.

Table 4–2 Electrical Installation Specifications (Continued)

Specifications of the warning lamps (5) and (7)	60 W	60 W	• Locate the red warning lamp (5) outside the x-ray room to indicate the unit is active (1 lamp at each access point). • Locate the green warning lamp (7) outside the x-ray room to indicate the ready state of the unit for acquisition.
Contactor (13)	16A-250V UL listed	20A-250V UL listed	
Door Safety Switch (9)	1A / 250V	1A / 130V	Optionally, connect the door safety switch (9) that deactivates the x-ray remote control if the door remains open.

Use the following switches:

Emergency Stop Switch:

Manufacturer: Cutler-Hammer

Ref:
- E22AT111
- E22AT112

Contactor:

Manufacturer: Telemecanique

Ref: LC1 D4011
- F6 (110/130 V - 60 Hz)
- P5 (230/240 V - 50 Hz)
- U6 (230/240 V - 60 Hz)

IMPORTANT

If you cannot use the above manufacturer devices, use an equivalent emergency switch and contactor in the UL list with the same specifications. For more information, see UL 2601.1 clause 22.7.

X-Ray Room Requirement

IMPORTANT

Use an appropriate wall fixing system suitable for the type of wall construction. See the examples below.

The following illustrations provide examples of wall types and fixations.

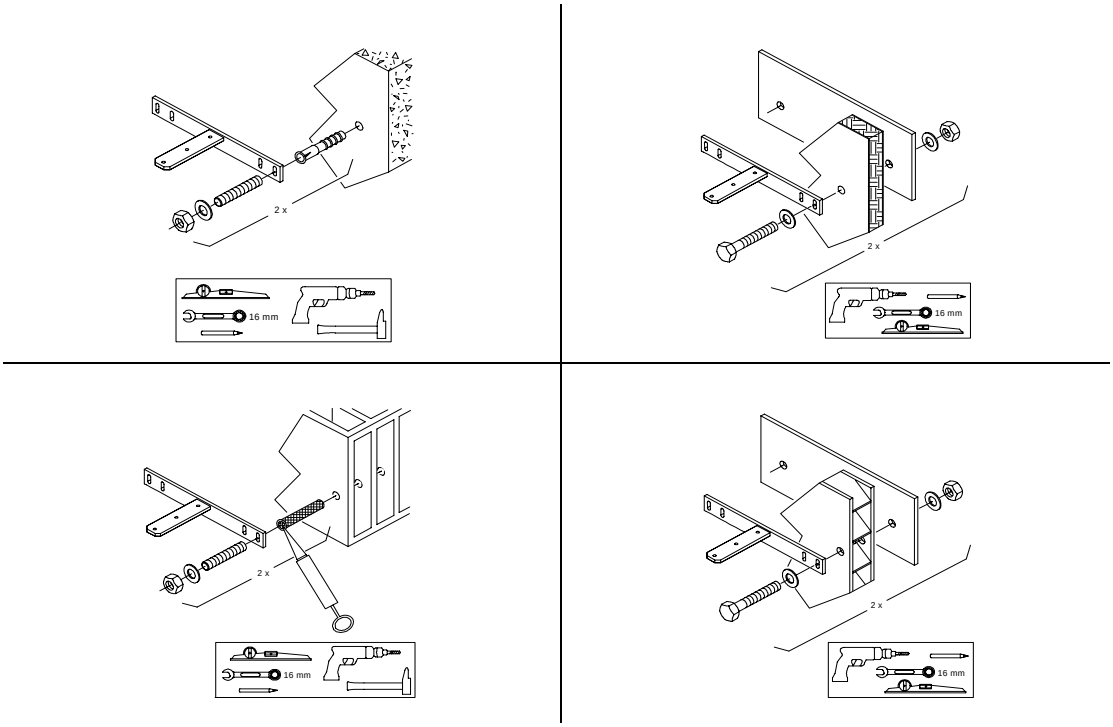


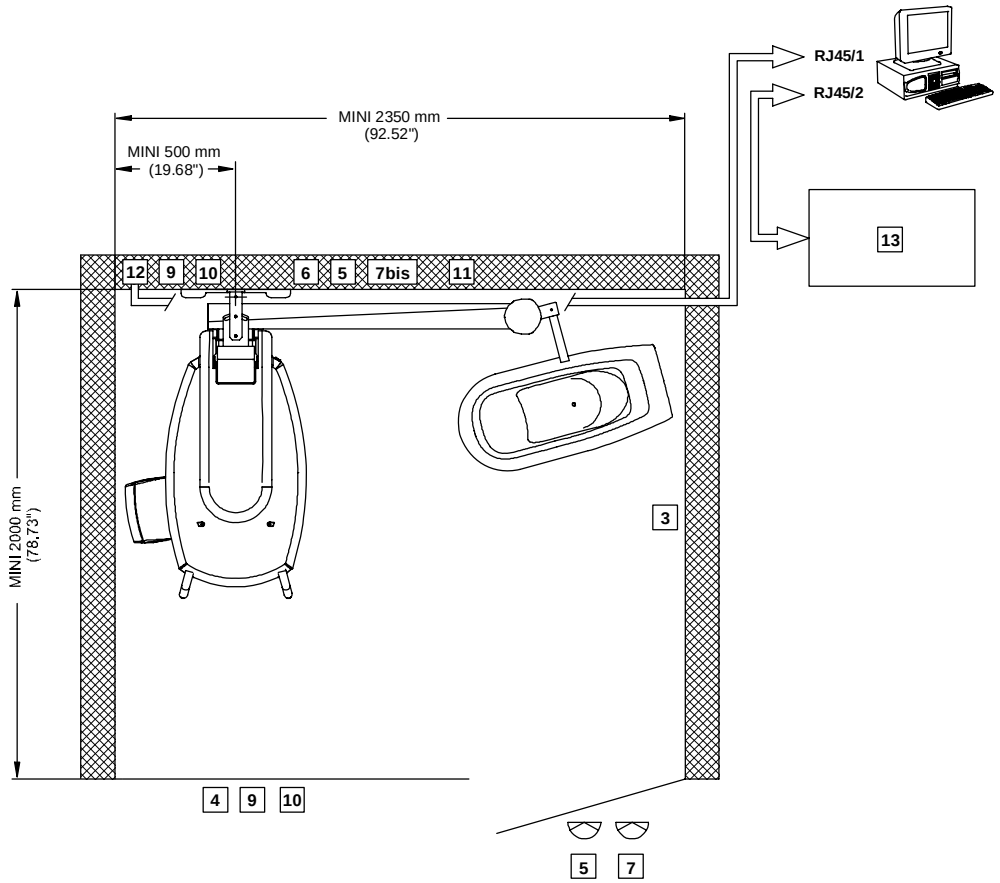
Table 4–3 X-Ray Room Requirements

Room Components	Minimum Requirement	Comments
Width of the door	75 cm (30")	
Height of the ceiling	240 cm (95")	If needed, a shorter column is possible by special order.
Strength of the wall	Withstanding an extraction force of 150 kPa at each point of attachment.	It is the responsibility of the installer to choose an appropriate fixing system that withstands the extraction force.
Load-bearing capacity of the floor	500 kg/m2	The floor must be solid and flat.
Required space for the KODAK 8000 and K8000C units	2350 (L) x 1950 (D) x 2400 (H) mm	

IMPORTANT

Install the unit where a minimum amount of space is provided to allow easy access for the patient or the maintenance technician (see Figure 4-2).

Figure 4–2 Minimum X-Ray Room Space Configuration for K8000 and K8000C



3	Red color actuator emergency stop push-button	**9**	X-ray remote control
4	Red color actuator emergency stop push-button	**10**	Door safety switch
5	Red warning lamp, power ON indicator	**11**	Mains outlet (for electrical tools)
6	Unit mains connecting terminal	**12**	Ethernet outlet (RJ45/1)
7	Green warning lamp, ready state indicator	**13**	Local Area Network (LAN), (RJ45/2)
7bis	X-Ray warning lamp connecting terminal		

WARNING

You MUST prepare the appropriate electrical requirements and configurations of the x-ray room before installing the unit. You MUST locate separately the following low voltage and high voltage connections:

- Low Voltage: (12), (9), (10)

- High Voltage: (6), (5), (7bis)

Computer System Requirements

To keep you always updated on the latest evolution of the minimum computer system requirements for KODAK 8000C system software, this section is posted on site MyTrophytec: **http://www.mytrophytec.com**, as a separate document with edition number. Before any intervention on the client's site, check first the **MyTrophytec** site for the latest edition.

IMPORTANT

It is MANDATORY to check that the computer system configuration is compatible with the computer system requirements for the KODAK 8000C software. If necessary you MUST update your computer system configuration. KODAK 8000C MUST be connected to the computer via a point-to-point Ethernet link and not via a LAN. DO NOT place the computer and the peripheral equipment connected to it in the immediate vicinity of the patient in the unit. Leave at least 1.5 m distance from the unit. The computer and the peripheral equipment must conform to the IEC 60950 standard.

Chapter 5-
INSTALLING THE CEPHALOSTAT

Tool Requirements

The installer must supply the following tools:

- Power drill
- Screws and heavy duty fixings
- Spirit level
- Measuring tape
- Cutter
- Metric Allen keys
- Metric spanners

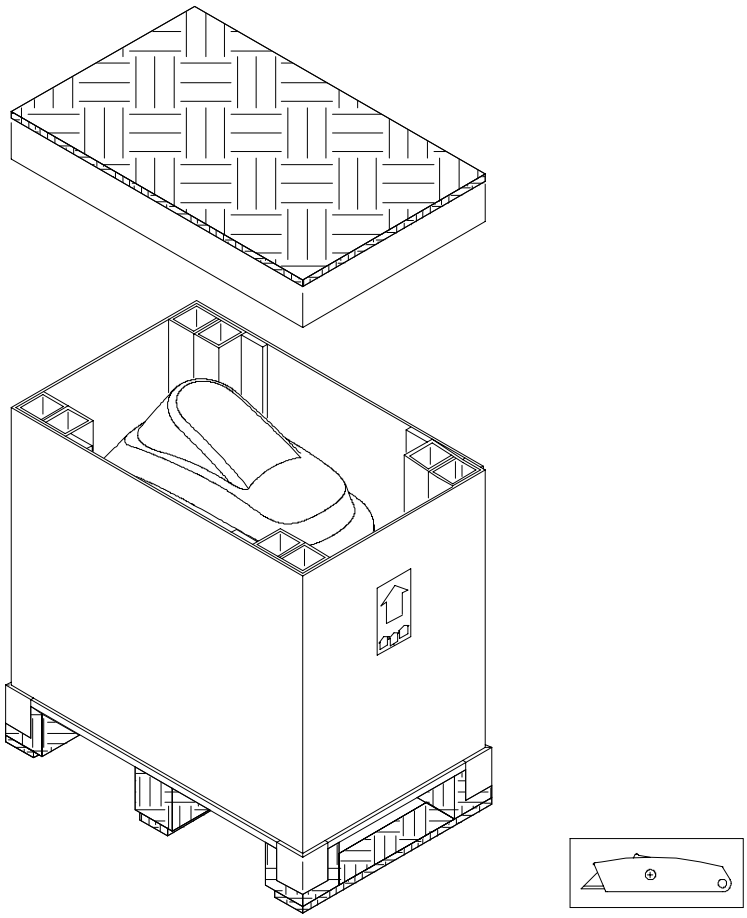
IMPORTANT
The tool references mentioned in this manual are ISO tool references.

Technical Staff Requirements

The installation requires the following number of technicians:

Unit Component	Technicians
Arm	2
Head	2

Opening the Box



Before opening the cephalostat assembly box make sure that you have the required tool.

To open the cephalostat assembly box, follow these steps:

1. Remove the upper cardboard from the packaging. DO NOT cut through the cardboard.
2. Remove the cephalostat arm.
3. Remove gently and set aside the cephalostat head cover.
4. Remove the protection elements. Lift off the packaging carton.
5. Remove gently the cephalostat head from the transport support and place it on the ground.
6. Remove the other accessories.

Installing the Cephalostat Unit

Before installing the cephalostat unit, make sure that:

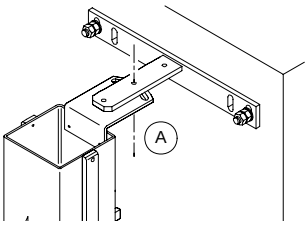
- The unit is switched off.
- The head and generator covers are removed.
- You have the required tools.

Installing the Cephalostat Arm

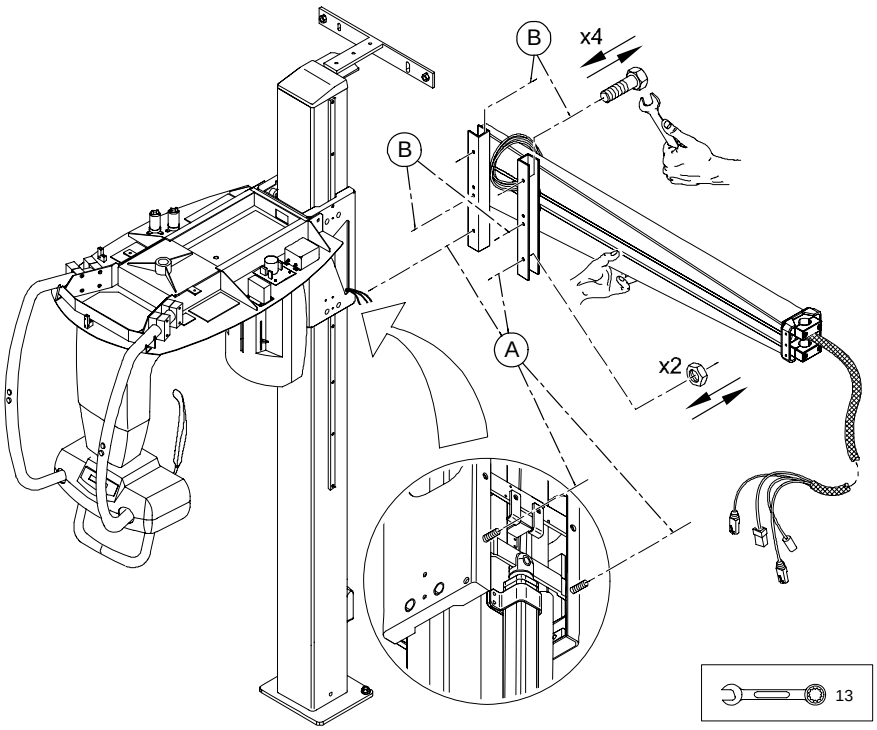
To install the cephalostat unit, follow these steps:

IMPORTANT

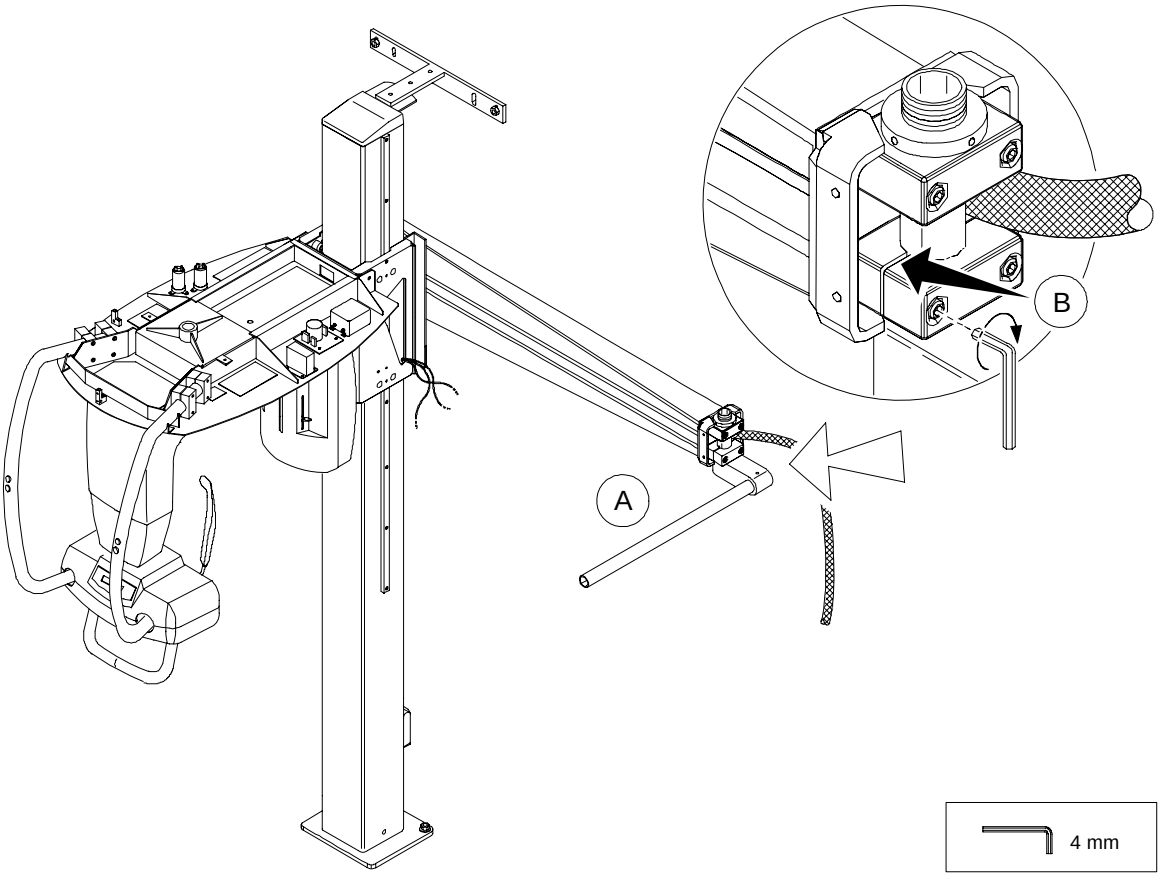
Make sure that the wall mounting bracket's hole (A) is the furthest from the wall before installing the cephalostat unit.



1. With the help of 1 person, position the cephalostat arm on the rear of the mobile component of the column. To attach the arm, insert the screws on the column on the lower holes (A). Insert and then tighten the fixing screws (C).



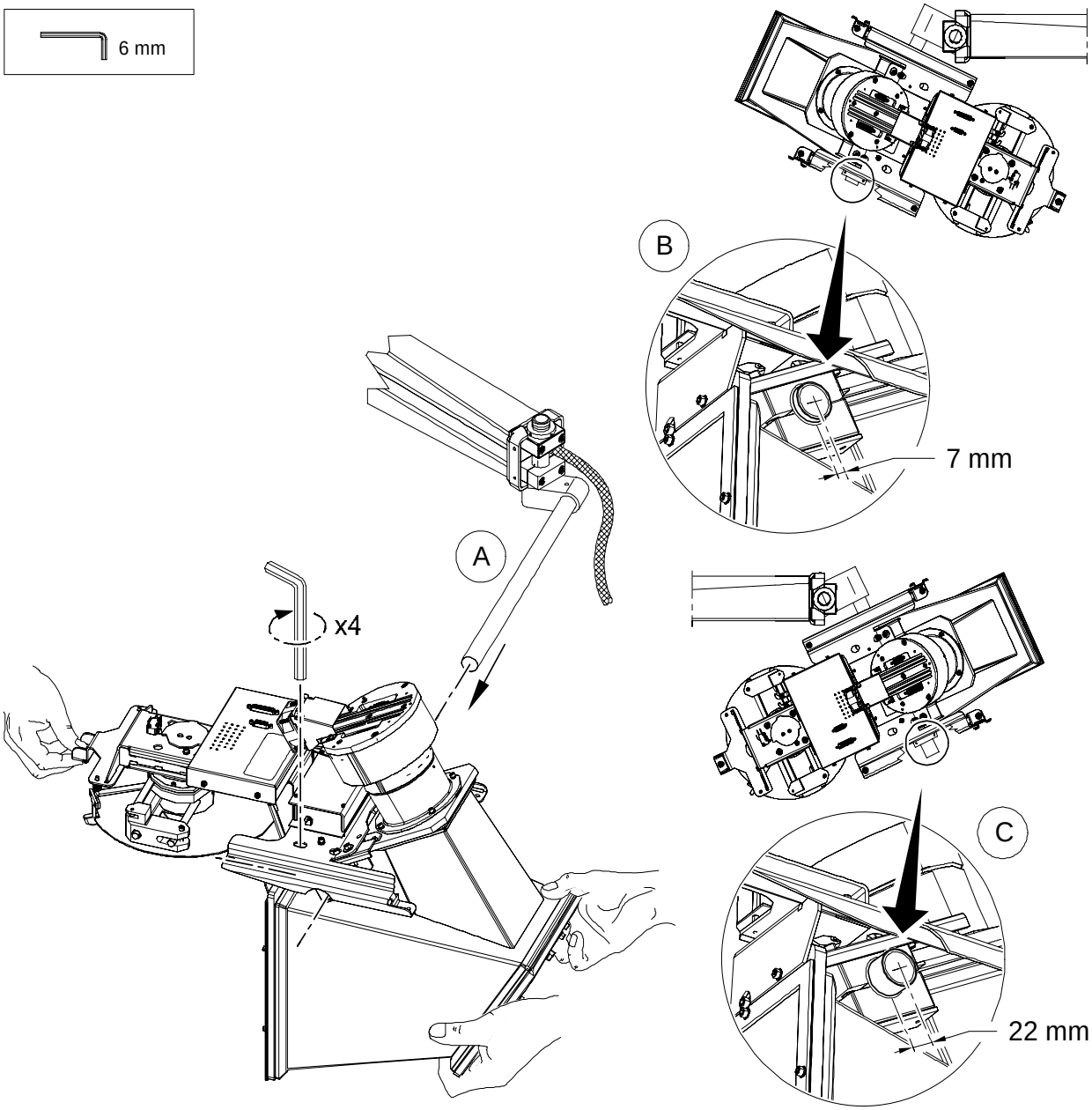
2. Make sure that the tube (A) is for the appropriate side (by default it is for the right side position of the ceph), if not, unscrew the fixing screws and reposition it for the appropriate side. Insert all the way tube (A) inside the tube clamps (B) and screw in the fixing nut.Tigten the fixing screws of the tube clamps (B).



Installing the Cephalostat Head

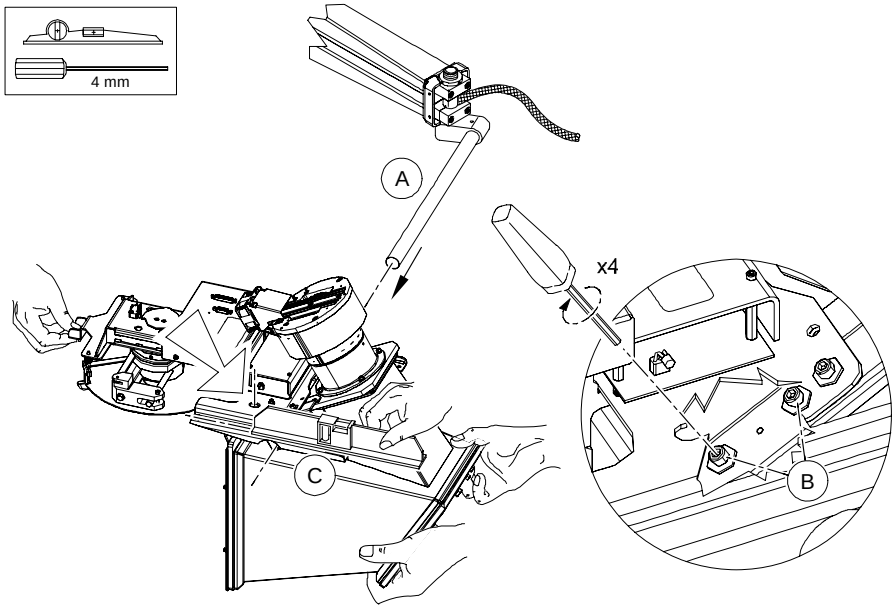
3. With the help of 1 person, lift the cephalostat head and insert the elbow tube (A) inside the elbow tube clamps. Insert the elbow tube (A) as far as:

   - Left side ceph position, 7mm (B)
   - Right side ceph position, 22mm (C)

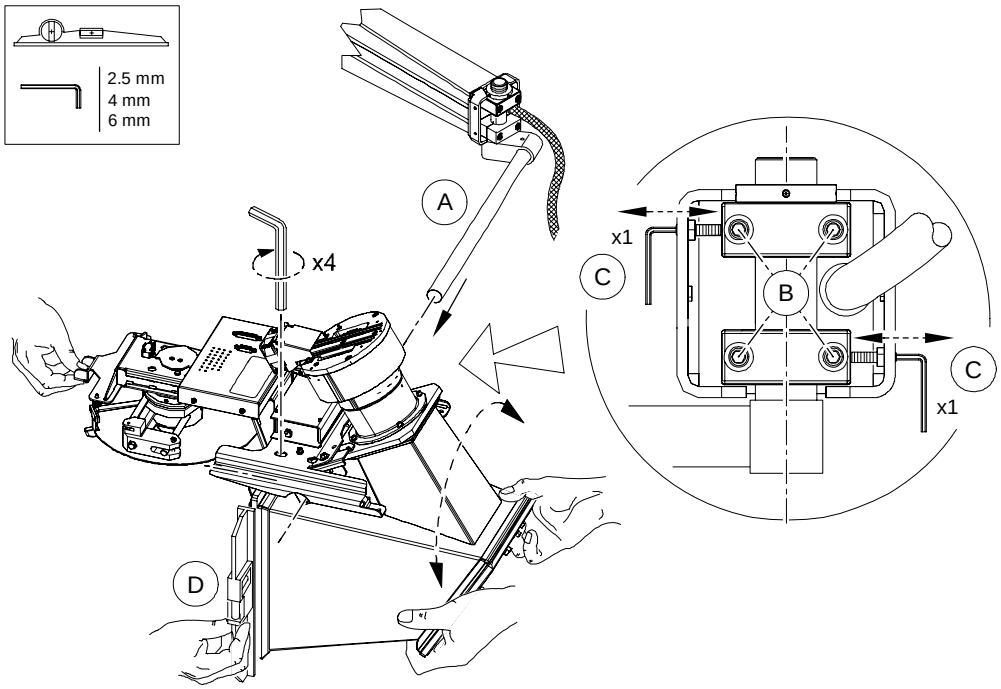


4. Screw the fixing screws but do not tighten them.

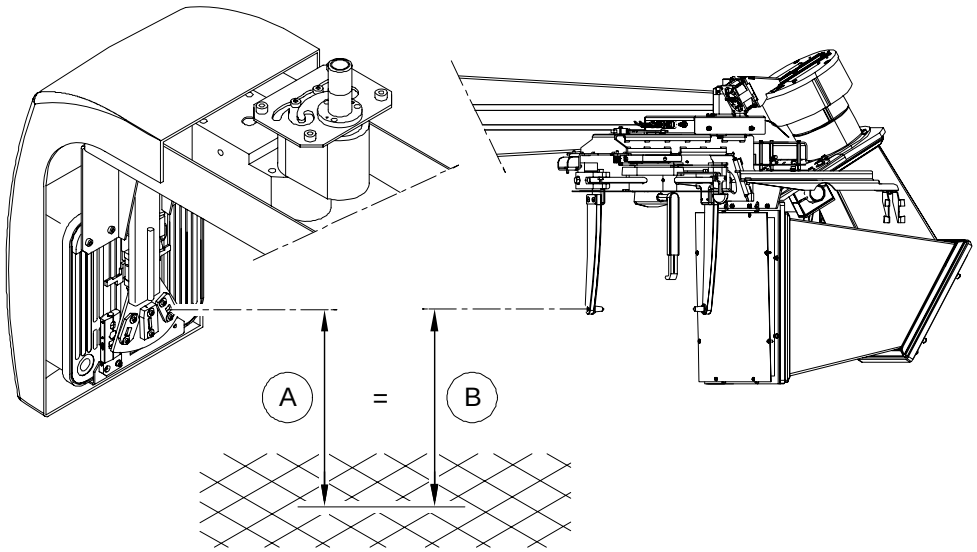
5. Correctly position the cephalostat head using a spirit level (C) placed as shown in the figure. Tighten the fixing screws (B) to adjust with the spirit level (C).



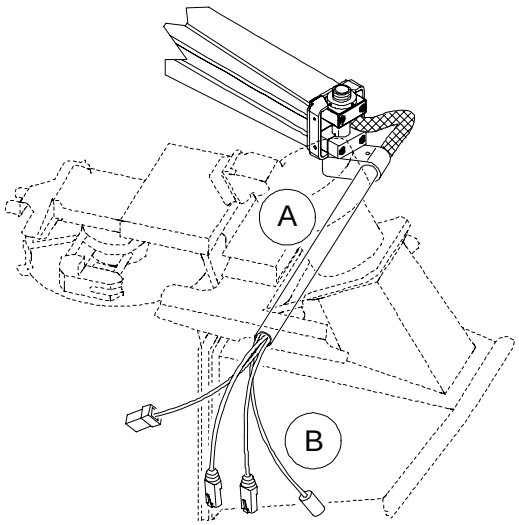
6. Correctly position the cephalostat head using a spirit level (D) placed as shown in the figure. Tighten the fixing screws (C) to adjust with to the spirit level (D).



7. To adjust the height of the Cephalostat head, using a measurement tape, measure the height from the floor to the middle of the collimator outlet (A). Measure the height from the floor to the center of the ear cone ball (B). The measurements must be the same (A = B). To adjust the height use the tube fixing nut (C), see step 2 of the procedure.



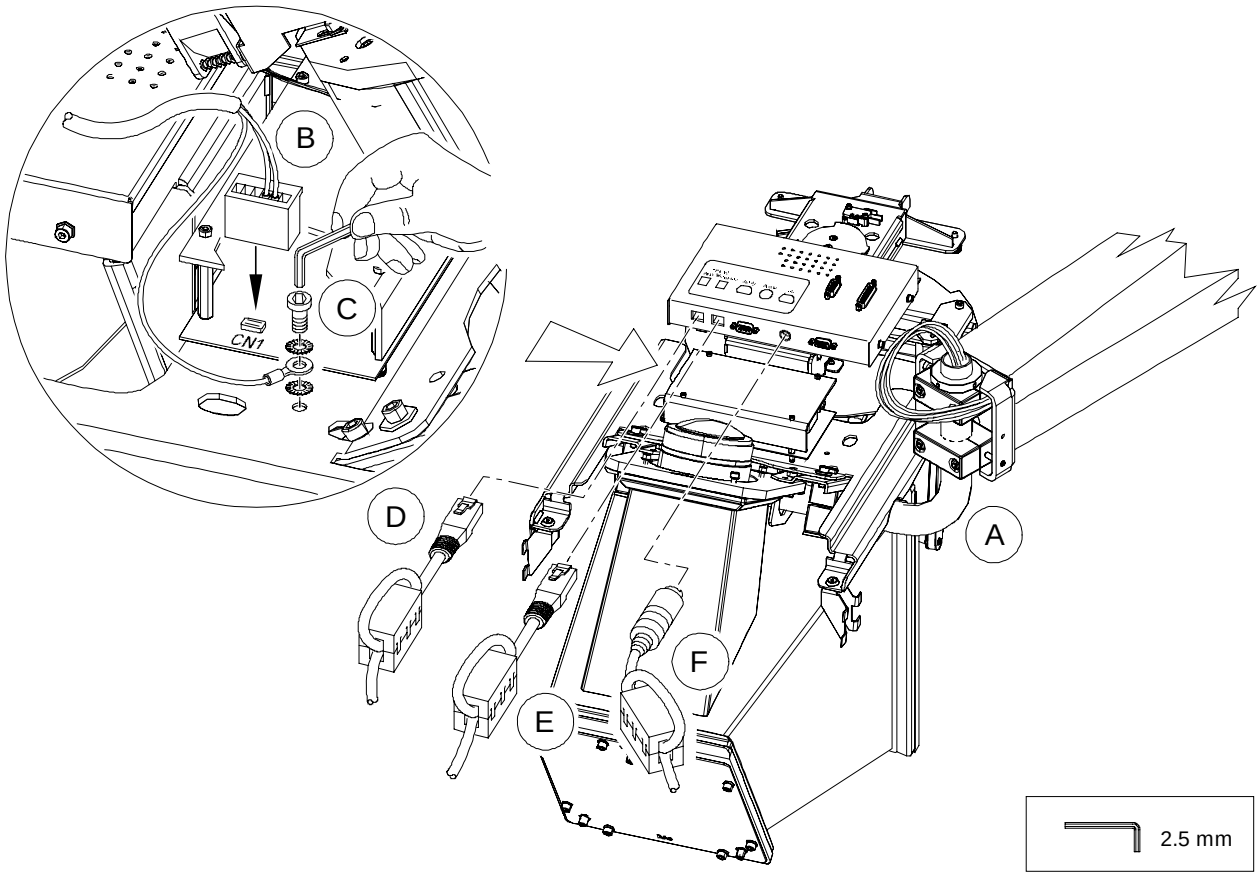
8. Insert the cables (B) inside the elbow tube (A) tube.



Wiring the Cephalostat Head

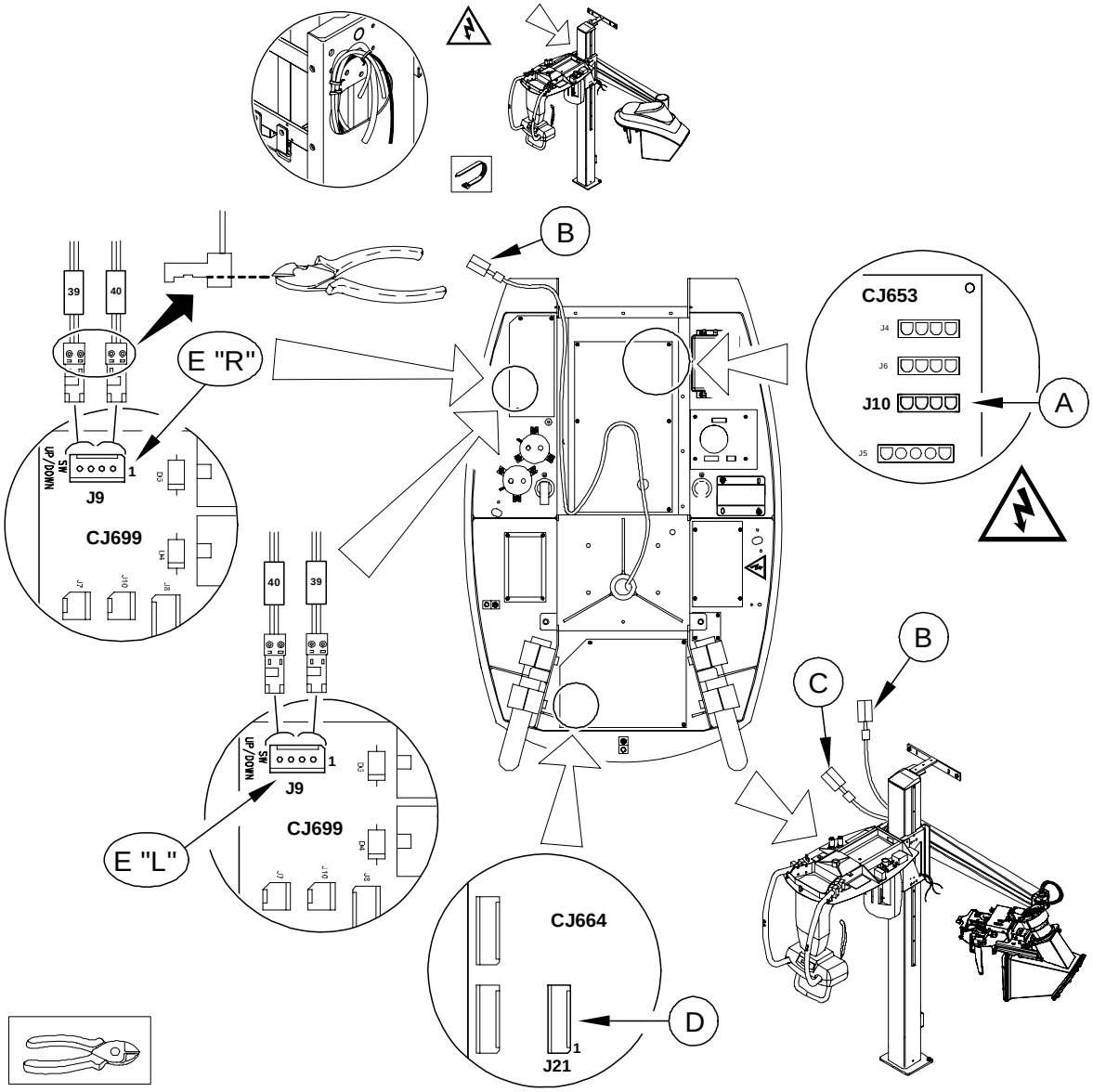
9. Pull the cables out of the elbow tube (A). Remove the adhesive tape. Connect the following wiring in the following order:

	Cable ...	**On the ...**	**To ...**
(B)	967/Alim Lambda/CN1	Power supply board	CN1
(C)	Green and yellow cable	Next to power supply box	Ground screw
(D)	Ethernet Pano (with ferrite)	Control box	Pano
(E)	Ethernet Workstation (with ferrite)	Control box	Workstation
(F)	A14/CJ802/J5 (with ferrite)	Control box	Synchro



Wiring the Cephalostat to the Unit Head

10. Pull the cables out of the cephalostat arm. Pass the cables through the opening in the column and attach them with a cable tie to avoid cable wear due to usage as shown in the figure below. Connect the wiring in the following order:



	Cable ...	On the ...	To ...
(A)	967/CJ653/J10	CJ653	J10
(B)	Ethernet Pano		Ethernet Pano
(C)	Ethernet Workstation		Ethernet Workstation
(D)	CJ664/J21	CJ664	J21(adapter board CJ664 v4)
(E "**R**")	39/CJ699/J9 & 40/CJ699/J9	CJ699	J9 (**for right side ceph**)
(E "**L**")	39/CJ699/J9 & 40/CJ699/J9	CJ699	J9 (**for left side ceph**)

Post-Installation Control

Before the post-installation control, check that:

- The installation of the unit is complete.
- The installation of the KODAK dental imaging software is complete.
- You have the test tool.
- You have raised the digital sensor to ceph mode.
- The unit is on.

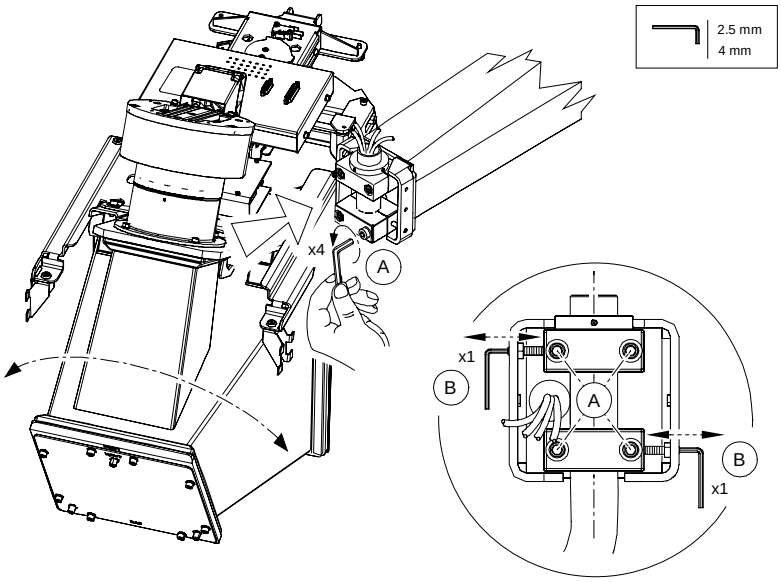
Adjusting the Cephalostat Head

Adjusting the Cephalostat Head Inclination

To adjust the cephalostat head inclination, follow these steps:

1. Position the head clamps in a frontal AP position.
2. Access the **Cephalometric Acquisition Window**. In the **Program pane**, click .
3. Launch an x-ray using the x-ray remote control. The head clamps must be correctly and vertically positioned on the acquired x-ray image.

4. If needed, adjust the cephalostat head mechanically using the elbow tube for horizontal inclination of the cepahlostat head. Untighten the fixing screws (A) slightly. Use the fixing screws (B) to adjust the horizontal inclination. Tighten the fixing screws (A) when you have reached the desired adjustment.



Adjusting the Height of the Cephalostat Head

To adjust the height of the cephalostat head, follow these steps:

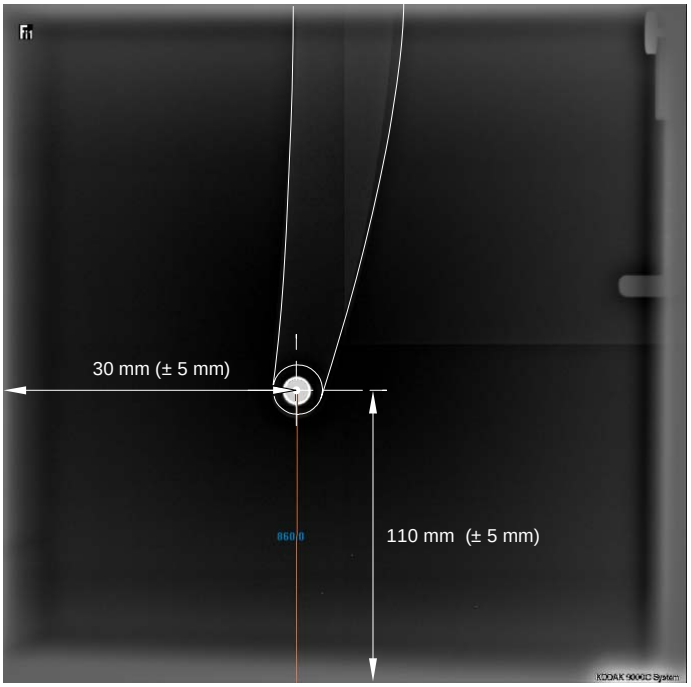
1. Position the head clamps in a lateral position.

2. Access the **Cephalometric Acquisition Window**. In the **Program pane**, click .

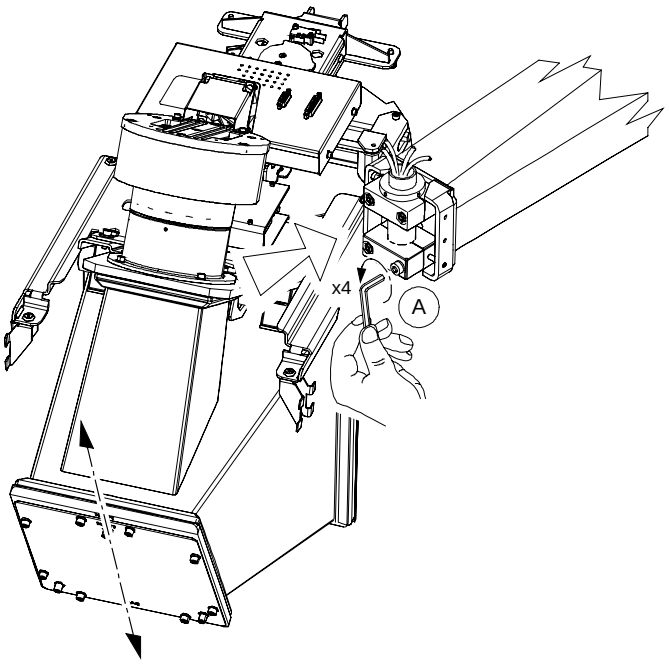
3. Launch an x-ray using the x-ray remote control.

4. In the **Imaging Window**, on the drawing toolbar, click . On the acquired image, draw a line from the bottom of the image to the center of the ball (ear cone). The resulting value must be:

   - Height: 30mm (± 5mm)
   - Length: 110mm (± 5mm)



5. If needed, adjust the height, using the cephalostat arm screws (A). Untighten slightly the screws (A) and lift the cephalostat head to the correct height. Tighten the cephalostat arm screws (A).



Adjusting the Ear Cones Alignment

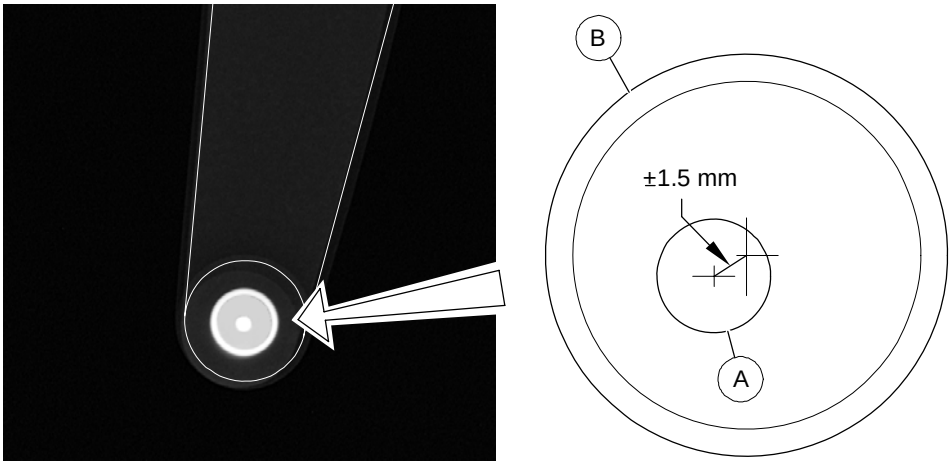
To adjust the ear cones alignment, follow these steps:

1. Position the head clamps in a lateral position.

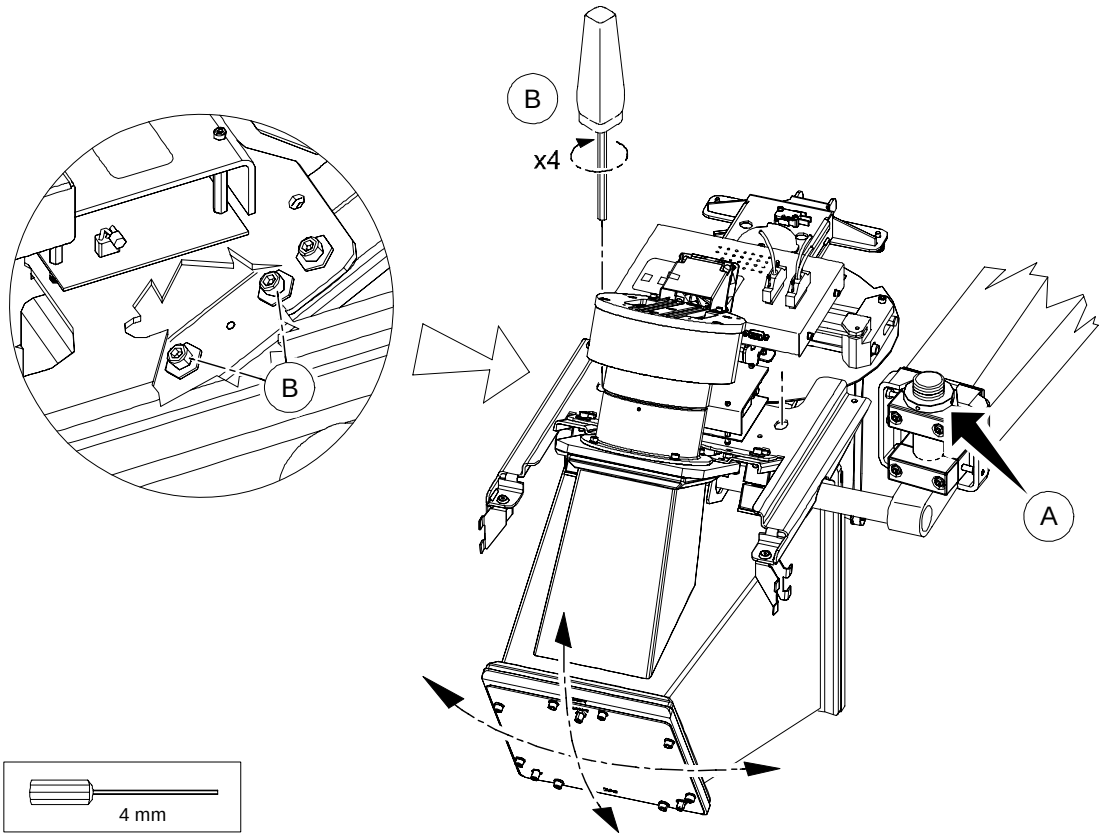
2. Access the **Cephalometric Acquisition Window**. In the **Program pane**, click .

3. Launch an x-ray using the x-ray remote control. The ear cone ball (A) must be at the center of the head clamps circle (B).

4. In the **Imaging Window**, on the drawing toolbar, click . On the acquired image, draw a line from the center of the ball (A) to the center of the circle (B). The resulting value must be ±1.5mm.



5. If needed, adjust the cephalostat head mechanically:
   - For a vertical adjustment, use the cephalostat arm screws (A).
   - For a horizontal adjustment, use the elbow tube clamps screws (B).

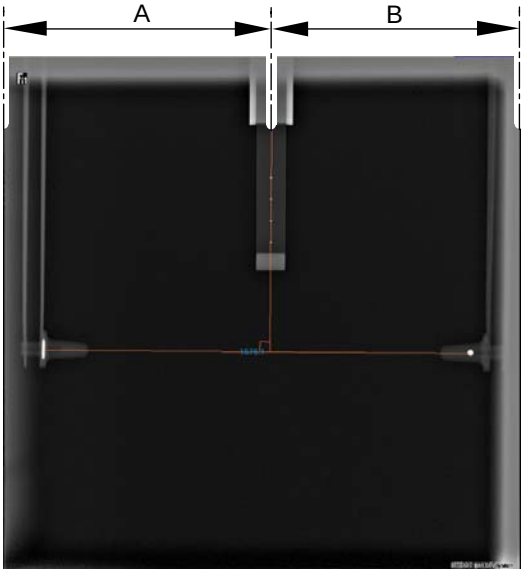


Adjusting the Nasion Support

To adjust the nasion support, follow these steps:

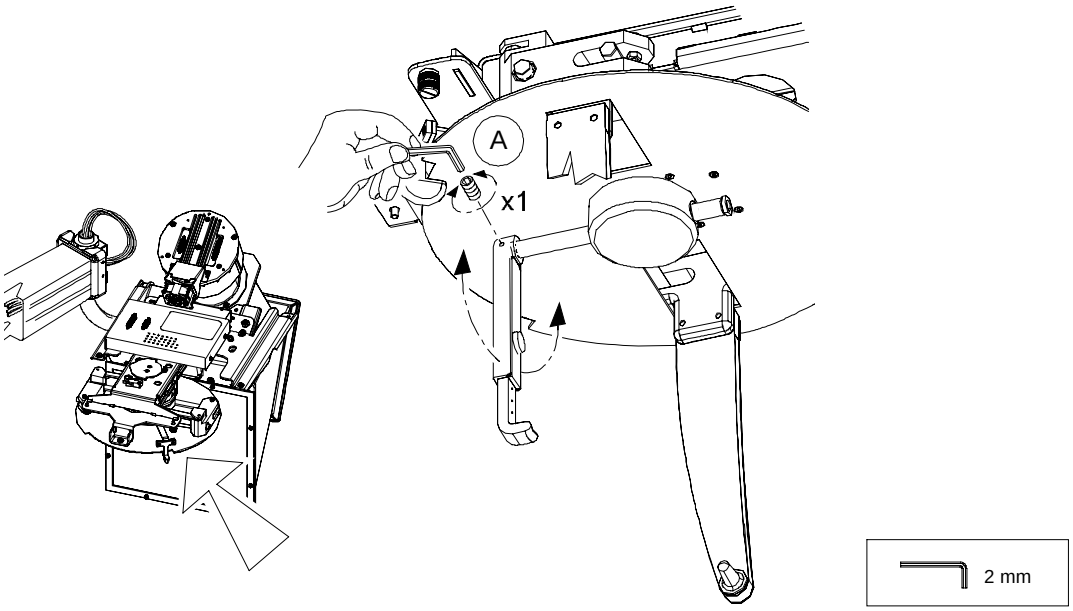
1. Lower the nasion support to a vertical position.
2. Access the **Cephalometric Acquisition Window**. In the **Program pane**, click .
3. Launch an x-ray using the x-ray remote control. The nasion support must be perpendicular to the ear cones.

4. In the **Imaging Window**, on the drawing toolbar, click . On the acquired image, draw a perpendicular line between the center of the ear cones and the nasion support holes to check that the nasion support is positioned vertically. The resulting value must be A = B ±3mm.



A = B
± 3 mm

5. If needed, adjust the nasion support, using the nasion support fixing screws (A).



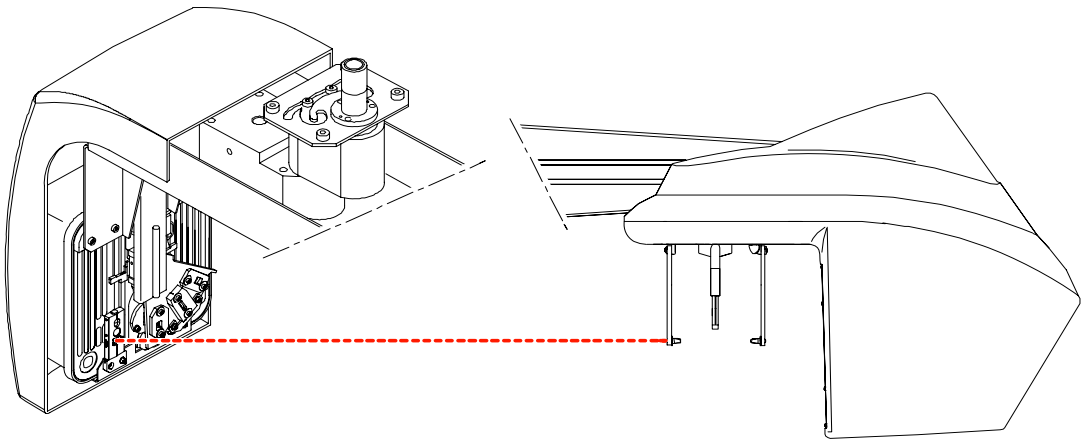
Adjusting the Cephalometric Frankfurt Positioning Laser

To adjust the cephalometric Frankfurt positioning laser, follow these steps:

1. Remove the generator front cover.

2. Turn on the unit. On the control panel, press to turn on the positioning laser beams.

3. Make sure that the cephalometric Frankfurt positioning laser beam is projected in the middle of the ear cone.



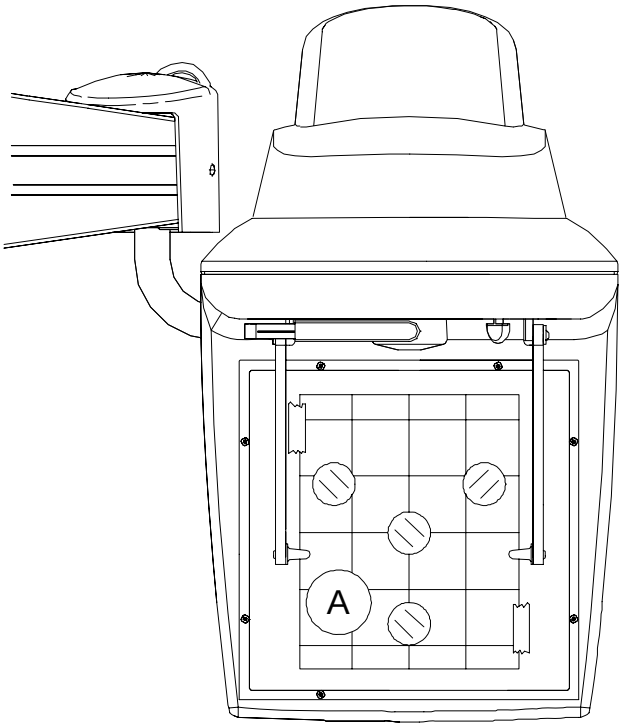
4. If needed, adjust the laser using the fixing screw of the laser socket.

5. Replace the generator front cover.

Checking the Image Quality

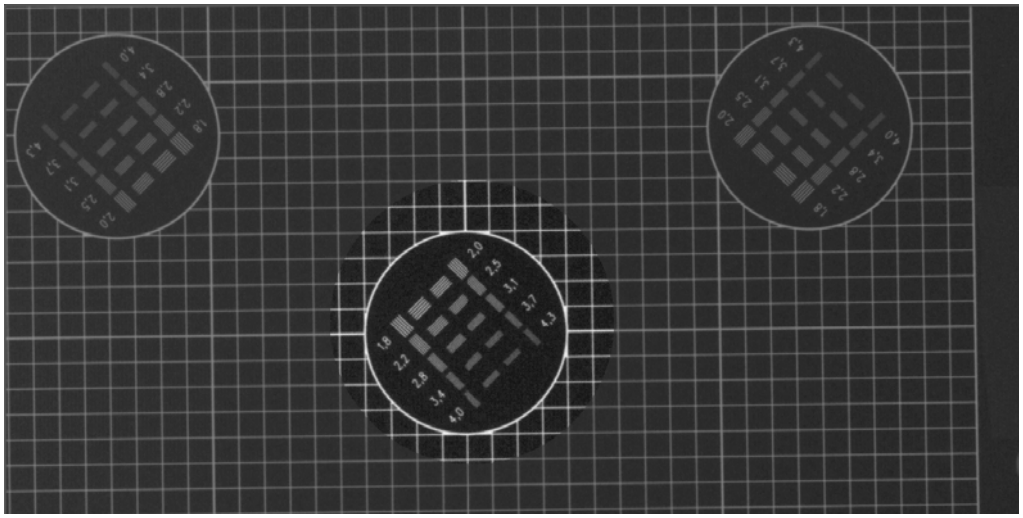
To check the image quality, follow these steps:

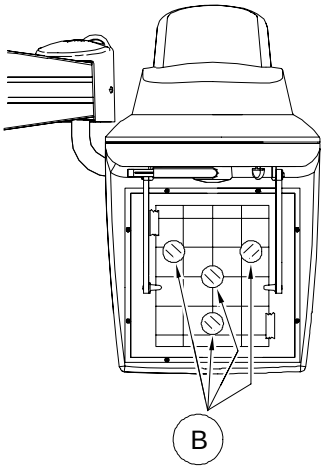
1. Raise the nasion support.
2. Open the head clamps.
3. Position the image quality phantom (A) at the center of the digital sensor.

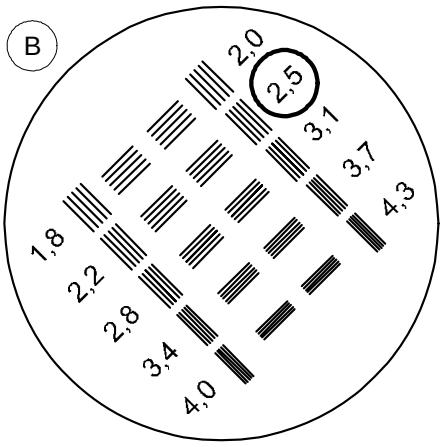


4. Access the **Cephalometric Acquisition Window**. In the **Program pane**, click .
5. In the **Parameter pane**, select:
   - 64 Kv
   - 15 mA
   - 0.4 s
6. Launch an x-ray to acquire an image.
7. In the **Imaging Window**, on the acquired image, zoom on the value grid (B) of the image quality phantom (A). The resulting value clearly visible must be minimum 2.5 (right, left, center and bottom).

   Check that there is no splitting lines of the grid of the image quality phantom.







8. Save the image. Use this image as reference for a later image quality verification.

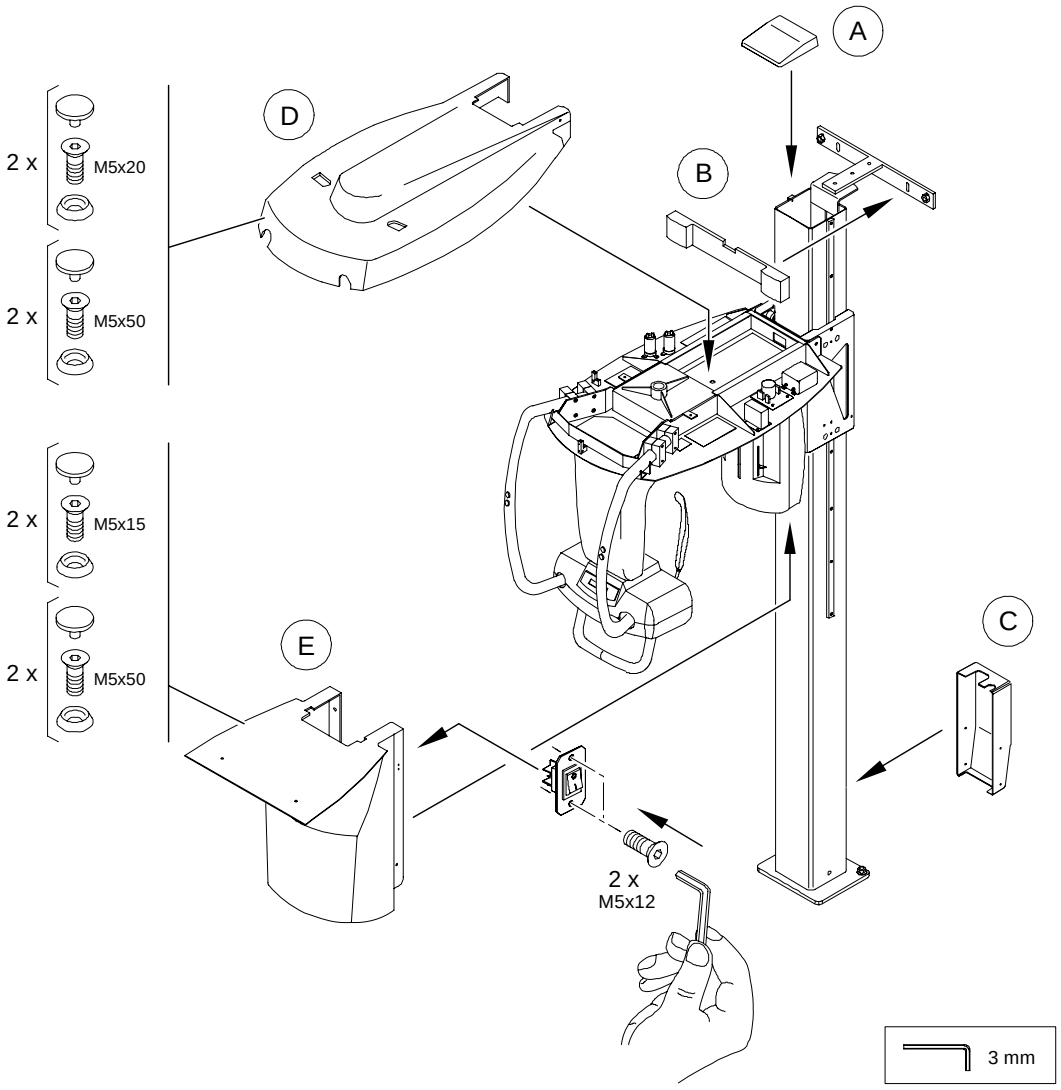
Fitting the Covers

WARNING

Before fitting the covers, you MUST switch off the unit.

Before fitting the covers, check that:

- All the screws in the wall and the floor have been tightened.
- All the screws attaching the head and the fixed arm to the column have been tightened.



To fit the covers, follow these steps:

1. Fit the upper cover (A) on the column. Fit the cover on the wall-bracket (B). Fit the cover on the column connecting terminal (C) and tighten the fixing screws.

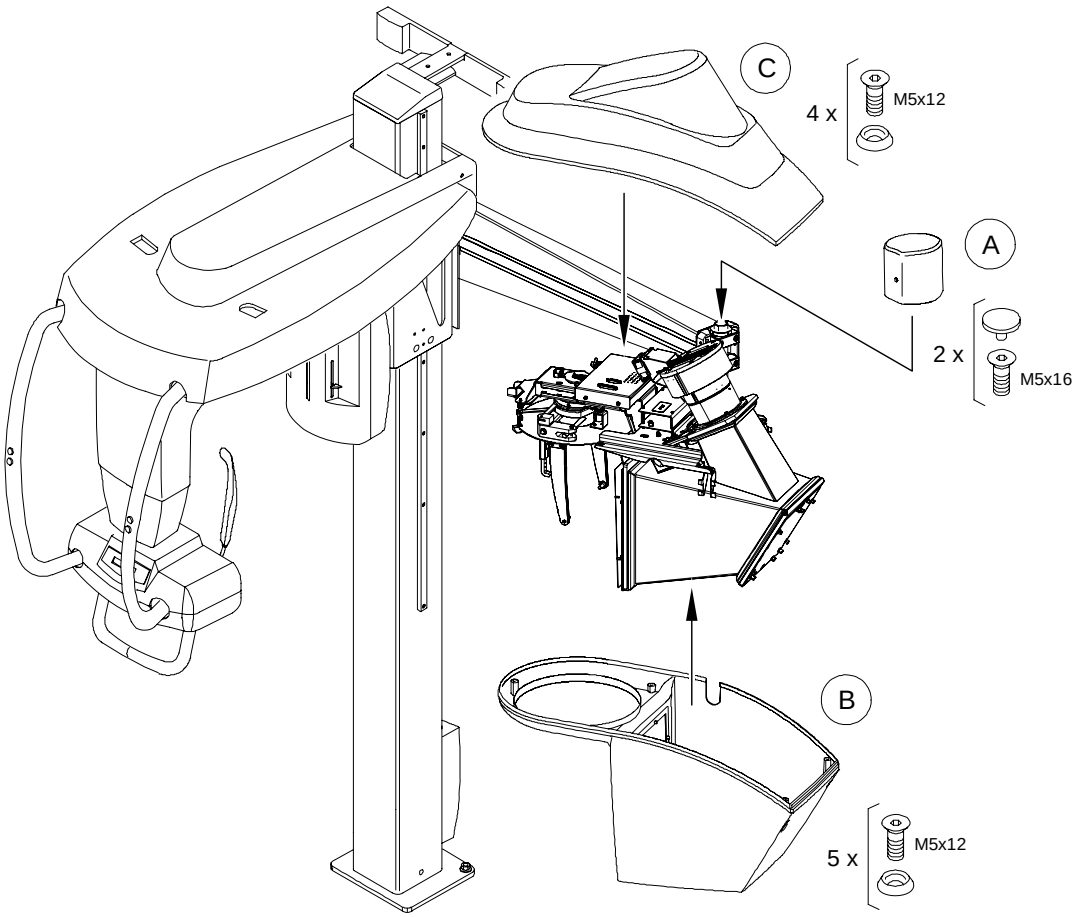
2. Fit the head cover (D) of the unit to the head chassis and tighten the fixing screws.
3. Fit under the head cover (E) and tighten the fixing screws.
4. Fit the inside column cover (F) and position and attach securely the ON/OFF button to the cover with the fixing screws. Screw and tighten the fixing screws of the column cover.

   You can fit the cephalometric covers now.

Fitting the Cephalostat Covers

To fit the cephalostat covers, follow these steps:

1. Fit the cephalostat end of the arm cover (A) and screw the fixing screws.
2. Fit the cephalostat head side covers (B) and screw the fixing screws.
3. Fit the cephalostat head top cover (C) and screw the fixing screws.



Chapter 6
Maintenance

Annual Maintenance

We recommend that a general inspection of the unit should be carried out every year by an approved dental systems technician.

The inspection should cover the following points:

- Check the attachment points to the floor and the wall.
- Check all the mobile components of the unit.
- Check the x-ray generator.
- Check the alignment of the x-ray.
- Make an image acquisition with the test tools and check the image.
- Check the focal trough and the symmetry.
- Check the degree of legibility of the labels.
- Check for damage to cables, covers, oil leaks, etc.

If the results of any of these inspections are unsatisfactory, refer to the Service Manual in order to rectify any problems.

If there is any doubt, do not operate the unit.